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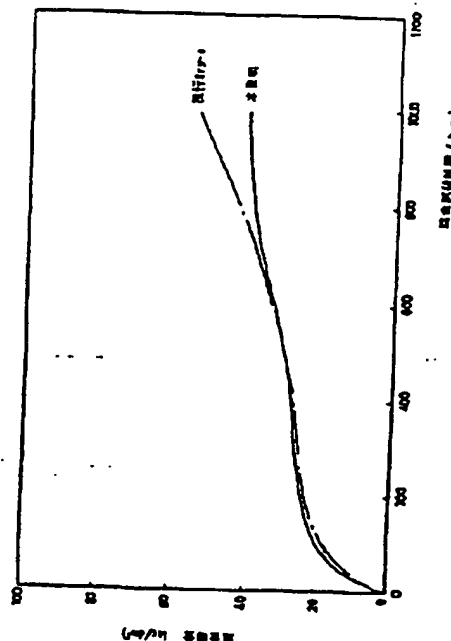
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TENTEE : NUCLEAR FUEL IND LTD
TENT DATE: 30-04-1992

VENTOR : OE AKIRA

T.CL. : G21C3/07; G21C3/06

TLE : COVERING TUBE FOR NUCLEAR
FUEL AND ITS MANUFACTURE



STRACT : PURPOSE: To ensure corrosion resistance by manufacturing a fuel rod covering tube for cluster of nuclear fuel by a zirconium alloy consisting of Sn, Fe, Cr, Nb, Ni, O, C, Si, the remainder of Zr and inevitable impurities.
CONSTITUTION: In the manufacturing process of a fuel covering tube for cluster of nuclear fuel, a zirconium alloy consisting of Sn: 0.9 - 1.2wt%, Fe: 0.24 - 0.30wt%, Cr: 0.13 - 0.19wt%, Nb: 0.05 - 0.15wt%, Ni: 0.005 - 0.02wt%, O: 1,000 - 1,500ppm, C: 100 - 200ppm, Si: 20 - 200ppm; the remainder of Zr, and inevitable impurities is produced, and when a tube is manufactured by rolling of the alloy, the degree of work in a final cold-working process ranged, for example, from 60 to 70%, and the fr value of the >>0002 face of the inside surface of the covering tube is adjusted to 0.65 to 0.75. The corrosion test results of the covering tube and a conventional zircaloy - 4 in the vapor of 400 deg.C are as shown in the drawing, and the covering tube has superior corrosion resistance compared to the conventional zircaloy - 4.